REMARKS

Applicants have amended the claims to expedite prosecution. Claims 17, 18, 19 and 35 have been amended to make explicit that which was implicit that PSA and a cytotoxic T cell eliciting epitope thereof is administered to a host in a sufficient amount to generate a cytotoxic T cell immune reaction. Claim 19 has also been rewritten in independent form. Claims 26 and 27 have been amended to conform with previous amendments to the claim. Claims 30, 31, 34 and new claim 36 claim a preferred embodiment. These amendments are supported throughout the specification, particularly at page 4, lines 2-4 and 9-15, and page 5, lines 1-5. As such these amendments do not constitute new matter, and their entry is respectfully requested.

Claims 17-19, 24-26, 28 and 35 were rejected under 35 U.S.C. §102(e) as being anticipated by *Spitler et al.*

Applicants respectfully submit that this rejection should be withdrawn for the following reasons.

First, Applicants respectfully submit that the Examiner has not examined each claim on its own merits in comparison with the reference. Thus, for example, claims 18 and 35 specifically require administering a co-stimulatory molecule along with the PSA or cytotoxic T cell (CTL) eliciting epitope thereof. *Spitler et al.* does not disclose the use of a co-stimulatory molecule. Thus, there can be no anticipation.

Claims 30, 31 and 34 in discussing the prime boost administration require that the boost is heterologous to the priming agent. *Spitler et al.* does not disclose such a heterologous prime boost regime. Thus, there can be no anticipation.

All the claims require that the immune reaction that is generated must be a cytotoxic T cell eliciting immune response. This is shown throughout the specification and examples. See, particularly, pages 11-12 and Example 3 at pages 34-36.

As explained in the specification in the paragraph bridging pages 1-2, PSA is an endogenous protein. It is further taught that there is some generation of CD4 and CD8 cells specific for PSA. Applicants teach throughout the specification, see, for example, pages 4 and 11-12, the importance of being able to generate a cytotoxic T cell specific response to PSA or CTL eliciting epitopes thereof. In contrast, *Spitler et al.* only talks about any immune response be it a proliferative response or antibody immune response. It is, therefore, respectfully

submitted that such a teaching does not amount to an anticipation of any of the claims because it fails to require the specific steps of the claims.

Finally, Applicants are submitting a copy of the 1.131 Declaration previously signed by Dr. Schlom, which Applicants inadvertently omitted in the previous response. Thus, the objection of the Examiner to the 1.131 Declaration has been obviated. This Declaration shows that prior to the filing date of *Spitler et al.*, August 11, 1993, Applicants had conceived the idea of administering to a host an effective amount of PSA, specifically using a pox viral vector having a DNA segment encoding PSA to elicit an immune response in a human. As explained in the declaration and further shown in Exhibit A, PSA was intended to be expressed and used for vaccine manufacturing, i.e., namely, to generate an immune response. It was further shown by Exhibit B that all this was part of Therion's scientific program with NCI. The ultimate goal of the scientific program was to develop and administer said pox virus to humans to generate an immune reaction for the prevention and treatment of cancer, in this case using PSA.

Accordingly, Applicants respectfully submit that the rejection of claims 17-19, 24-26, 28 and 35 under 35 U.S.C. §102(e) as being anticipated by *Spitler et al.* should be withdrawn.

Claims 17-20, 22, 24-29 and 30-31 and 35 were also rejected under 35 U.S.C. §103(a) as being obvious over *Spitler et al.* in view of *Fields* and *Hodge et al.*

Applicants respectfully submit that this rejection should be withdrawn for the following reasons.

As discussed above, Applicants respectfully submit that they have obviated the Examiner's objection to the Declaration under 37 C.F.R. §1.131. Applicants further submit that this Declaration removes *Spitler et al.* as prior art. Applicants acknowledge that the Declaration does not specifically show human treatment data. However, neither does *Spitler et al.* Applicants further submit that the Declaration certainly shows as much as *Spitler et al.* with respect to the claims.

Accordingly, the Declaration, by itself, is sufficient to result in the removal of the rejection. However, even if the Examiner were to disagree, Applicants respectfully submit that the combination except by using impermissible hindsight in picking and choosing various elements would not suggest the importance of the claimed method of generating a cytotoxic T cell response specific to PSA. For example, the combination does not, except in hindsight,

suggest the importance of using a co-stimulatory molecule. Certainly there is nothing in the combination that suggests **the importance** of using a heterologous prime boost, i.e., the situation where the second vector used is different from the first vector such as in claims 30, 31, 34 and 36.

Applicants are submitting a copy of an abstract from the 2002 American Society of Clinical Oncology (ASCO) Meeting and a Press Release describing a follow-up presentation at the 2005 ASCO meeting. The two articles confirm that a prime boost of recombinant pox virus expressing PSA elicited surprisingly strong protective biochemical responses in a group of patients with hormone dependent prostate cancer and rising PSA. As quoted in the press release at the May 2005 ASCO meeting, Dr. Kaufman, M.D. of Columbia University reported:

> These follow-up results are extremely promising with the majority of subjects in **all treatment arms** remaining free of disease progression and exhibiting stable PSA scores at 50 months [emphasis added]
>
> The treatment arms tested were
>
> (1) 4 doses of recombinant fowlpox expressing PSA (rF-PAS) (homologous prime boost);
> (2) 3 doses of rF-PSA followed by one dose of recombinant vaccinia expressing PSA (rV-PSA) (heterologous prime boost); and
> (3) **1 dose of rV-PSA followed by 3 doses of vF-PSA (heterologous prime boost)**.
>
> The median time to PSA progression was 9.2 and 9.1 months for (1) and (2) respectively and **18.2 months for (3)**.

Applicants respectfully submit that this data reconfirms the importance of Applicants teaching of heterologous prime boost vaccination over the cited references. It certainly shows that claims 30, 31, 34 and 36 over the combination of references.

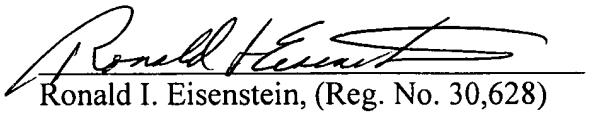
In view of the foregoing, Applicants respectfully submit that this rejection should be withdrawn.

In view of the foregoing, Applicants respectfully submit that all claims are in condition for allowance. Early and favorable action is requested.

In the event that any additional fees are required, the PTO is authorized to charge our deposit account No. 50-0850.

Respectfully submitted,

Date: November 28, 2005



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